



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/077,189	02/15/2002	Tong Liu	ACT-322	2718
7590	04/21/2004		EXAMINER	
Michael A. Blake Sierra Patent Group, Ltd. P.O. Box 6149 Stateline, NV 89449			THOMPSON, ANNETTE M	
			ART UNIT	PAPER NUMBER
			2825	

DATE MAILED: 04/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/077,189

Applicant(s)

LIU ET AL.

Examiner

A. M. Thompson

Art Unit

2825

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 08 January 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 January 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

Applicants' amendment to application 10/077,189 has been examined and remarks reviewed. The specification and drawings are amended. Claims 8-16 are cancelled. Claims 1-7 are amended. Claims 1-7 are pending.

1. Applicants' amendment has been fully considered but is not deemed to be persuasive. The applicable rejections from the prior office action are incorporated herein.

#### ***Drawings***

Applicants' drawings corrections, received January 8, 2004, although approved by the Examiner, does not conform with PTO procedure.

### **INFORMATION ON HOW TO EFFECT DRAWING CHANGES**

#### **Replacement Drawing Sheets**

Drawing changes must be made by presenting replacement figures which incorporate the desired changes and which comply with 37 CFR 1.84. An explanation of the changes made must be presented either in the drawing amendments, or remarks, section of the amendment. Any replacement drawing sheet must be identified in the top margin as "Replacement Sheet" and include all of the figures appearing on the immediate prior version of the sheet, even though only one figure may be amended. The figure or figure number of the amended drawing(s) must not be labeled as "amended." If the changes to the drawing figure(s) are not accepted by the examiner, applicant will be notified of any required corrective action in the next Office action. No further drawing submission will be required, unless applicant is notified.

Identifying indicia, if provided, should include the title of the invention, inventor's name, and application number, or docket number (if any) if an application number has not been assigned to the application. If this information is provided, it must be placed on the front of each sheet and centered within the top margin.

#### **Annotated Drawing Sheets**

A marked-up copy of any amended drawing figure, including annotations indicating the changes made, may be submitted or required by the examiner. The annotated drawing

sheets must be clearly labeled as "Annotated Marked-up Drawings" and accompany the replacement sheets.

### **Timing of Corrections**

Applicant is required to submit acceptable corrected drawings within the time period set in the Office action. See 37 CFR 1.85(a). Failure to take corrective action within the set period will result in ABANDONMENT of the application.

If corrected drawings are required in a Notice of Allowability (PTOL-37), the new drawings **MUST** be filed within the **THREE MONTH** shortened statutory period set for reply in the "Notice of Allowability." Extensions of time may **NOT** be obtained under the provisions of 37 CFR 1.136 for filing the corrected drawings after the mailing of a Notice of Allowability.

2. The drawings are objected to based on the following reasoning: In addition to the Draftperson's PTO-948, Figures 6 and 13 include unlabeled I/O. In Figures 16A and 16B, the tristate buffer pins are unconnected. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### **Specification**

3. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means", "said," and comprising should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

4. The abstract of the disclosure is objected to because it contains claim language and is non-narrative. Correction is required. See MPEP § 608.01(b).

***Claim Objections***

5. Claims 1-7 are objected to for the following reasons: Pursuant to claim 1, at line 2, insert the acronym for FPGA prior to using it. Pursuant to claim 3, after "elements", insert --are--. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the **second** paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 6, and 7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

8. Pursuant to claim 6, no structural/functional relationship exists between the "Input/out" and the rest of claim 1; in fact, claim 1 does not even mention IO. Pursuant to claim 7, no structural/functional relationship exists between the "RAM" and the rest of claim 1; claim 1 does not even mention the FPGA comprising any sort of memory.

***Claim Rejections - 35 USC § 102***

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States

only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

**Rejection of claims 1-7**

10. Claims 1-7 are rejected under 35 U.S.C. 102(e) as being anticipated by Kaptanoglu, U.S. Patent 6,285,212. Kaptanoglu discloses a FPGA architecture.

11. Pursuant to claim 1, Kaptanoglu discloses a freeway routing system comprising a plurality of FPGA tiles comprising a plurality of functional groups arranged in rows and columns (Fig. 2; col. 2, ll. 28-37; col. 3, ll. 1-12); a plurality of interface groups surrounding the plurality of FGs (col. 2, ll. 30-33; Fig. 1, #14) such that one IG is positioned at each end of each row and column; a first set of routing conductors configured to transfer signals (col. 2, ll. 28-37); said first set of routing conductors comprising a plurality of vertical conductors that form intersections with a plurality of horizontal conductors and programmable interconnect elements (col. 6, line 60 to col. 7, line 16) located at said intersections in a diagonal orientation on said FPGA tile (col. 8, line 66 to col. 9, line 4; col. 10, ll. 6-21).

12. Pursuant to claim 2, further comprising a second set of routing conductors configured to transfer signals. . . (Fig. 1, illustrates multiple FPGA tiles).

13. Pursuant to claim 3, further comprising programmable interconnect elements (col. 6, ll. 5-19, the F-tab; col. 7, ll. 4-16, the E-turn) located at the connections between adjacent FPGA tiles.

14. Pursuant to claim 4, wherein the diagonally oriented programmable interconnects are arranged from the upper left corner of a FPGA tile to the lower right corner of the FPGA tile (Fig. 6, #60; col. 10, ll. 51-67; col. 11, ll. 1-22).

15. Pursuant to claim 5, wherein the diagonally oriented programmable interconnects are arranged from the upper right corner of a FPGA tile to the lower left corner of the FPGA tile (Fig. 6, #6; col. 10, line 35 to col. 11, line 22).

16. Pursuant to claim 6, wherein the freeway set of routing conductors are configured to transfer signals from output ports of one IG (col. 4, ll. 31-43; col. 11, ll. 1-22).

17. Pursuant to claim 7, wherein the freeway set of routing conductors are configured to transfer signals from output ports of one RAM (col. 11, ll. 7-22).

#### **Response to Remarks**

18. Applicants' revised abstract is not approved and requires further amendment. Applicants' may peruse other patent abstract for examples of generally acceptable narrative formats. Review the abstract of Kaptanoglu.

19. Applicants' amendment does not change the scope of the claims in a manner that overcomes the prior art of Kaptanoglu. Kaptanoglu discloses vertical and horizontal conductors with the interconnects arranged in a diagonal manner to connect one horizontal conductor to one vertical conductor (see e.g. Abstract; col. 3, ll. 12-33).

#### **Conclusion**

20. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the

Art Unit: 2825

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

21. Any inquiry concerning this communication or earlier communications should be directed to Examiner A.M. Thompson whose telephone number is (571) 272-1909. The Examiner can usually be reached Monday thru Friday from 8:00 a.m. to 4:30 p.m.. If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Matthew S. Smith, can be reached on (571) 272-1907.

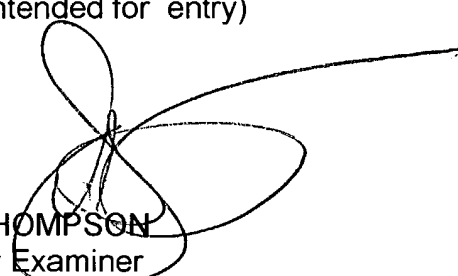
Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-1562 or the Customer Service Center whose telephone number is (571) 272-1750.

22. Responses to this action should be mailed to the appropriate mail stop:

Mail Stop \_\_\_\_\_  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

or faxed to:

(703) 872-9306, (for all **OFFICIAL** communications intended for entry)

  
A. M. THOMPSON  
Primary Examiner  
Technology Center 2800